

APHANOMYCES BLIGHT OF AMAZON SWORD PLANTS

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Florida is the leading supplier of aquarium plants in the United States. In 1968, this industry was conservatively valued at 2 million dollars (1). The amazon sword plant (*Echinodorus brevipedicellatus* Buch.) is considered to be the "queen of aquatics" and serves prominently as a center plant for large aquariums. The amazon sword plant and its relatives are susceptible to several diseases, few of which have been adequately described. One pathogenic fungus, *Aphanomyces euteiches* Drechs., in particular, can cause serious losses in commercial plantings. This fungus has been collected from several locations in Florida since 1970 when it was first encountered.

HOST RANGE. The amazon sword plant appears to be the only aquarium plant susceptible to this fungus (2). The following related species appear to be resistant: dwarf amazon sword (*E. grisebachii* Small), melon sword (*E. longistylis* Such.), ruffled sword (*E. martii* Micheli), broadleaf sword (*Echinodorus* 'Rangerii'), *Sagittaria lorata* Small, and *S. sinensis* Sims. The fungus (*A. euteiches*) is a serious pathogen of peas and other legumes in the North, but it has been recovered only from amazon sword plants in Florida. In laboratory experiments, however, this organism incited root rot and damping-off of pea, bean, cowpea, broadbean, beet, and radish seedlings (2).

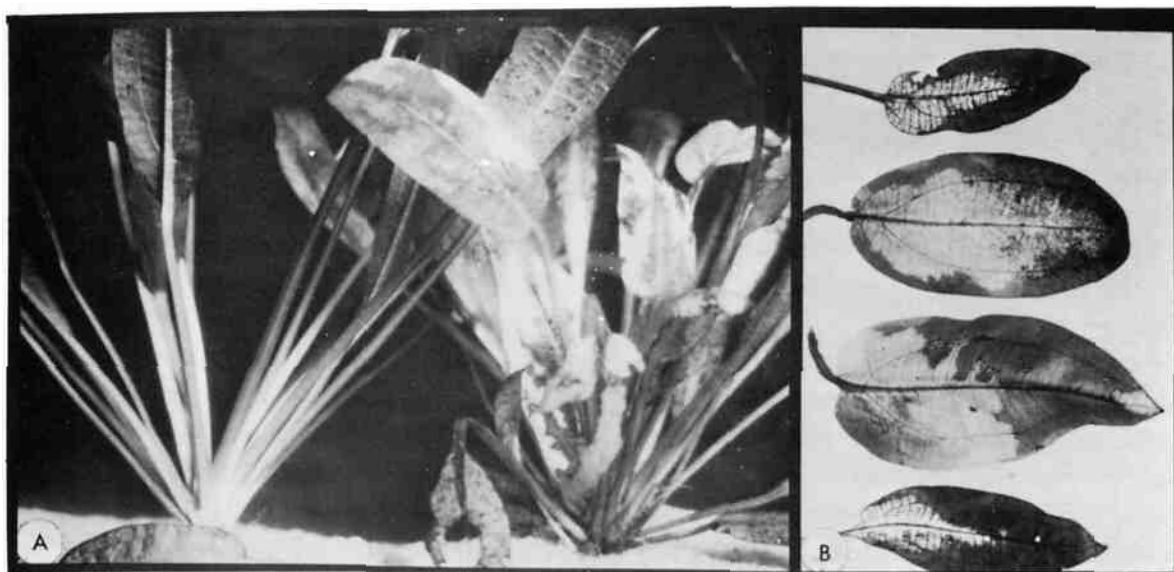


Fig. 1. Amazon sword plants infected with *Aphanomyces euteiches*: A) Submersed healthy (left) and infected (right) plants. B) Leaves with symptoms typical of early stages of blight; note the basal water-soaked tissues which ultimately become skeletonized.

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SYMPTOMS. Symptoms of necrosis first appear at the base of newly developing leaves. The necrosis spreads toward the leaf tip, primarily along the veins (fig. 1B). Infected leaves are at first water-soaked and later become skeletonized through lamellar decomposition (fig. 1B). Complete yellowing and death of the entire plant can result within 4 weeks after inoculation (fig. 1A). Under field conditions, leaves of infected plants frequently become detached at the petiole and float to the surface of the water (2).

CONTROL. Considering the extensive damage incited by this pathogen and the rapidity with which it spreads by means of free-swimming zoospores (2), control measures should be initiated as soon as possible. Special efforts should be made to avoid contaminating neighboring tanks with water or plants from infested tanks. Since no chemical control is known for this disease, infected plants should be destroyed. Infested tanks should be drained and treated with Clorox or a similar disinfectant before replanting. As an additional precaution, previously infested tanks should be restocked with plants other than amazon sword plants.

Literature Cited

1. DARE Report. 1969. Pub. No. 7, Inst. Food & Agr. Sci., Univ. Florida, Gainesville. 192 p.
2. Ridings, W. H., and F. W. Zettler. 1973. *Aphanomyces* blight of amazon sword plants. *Phytopathology* 63:289-295.